

AMENDMENTS TO THE CLAIMS:

Please amend the claims as indicated. A complete set of the claims is included below, as well as the current status of each claim. This listing of claims will replace all prior versions and listings of claims in the application:

1. (Withdrawn) A home network, comprising: a network backbone; a plurality of modules connected to the network backbone, each module being connected between the network backbone and a local bus; and a demarcation point unit receiving a home network signal from one of the modules over the network backbone and passing the home network signal to the plurality of modules.
2. (Withdrawn) The home network of claim 1 wherein the network backbone includes a plurality of coaxial cables.
3. (Withdrawn) The home network of claim 2 wherein the coax cables are part of pre-existing cable equipment installed in a home in which the home network resides.
4. (Withdrawn) The home network of claim 1 wherein the network backbone includes at least one splitter.
5. (Withdrawn) The home network of claim 1 wherein one module is in communication with a plurality of local buses.
6. (Withdrawn) The home network of claim 5 wherein one of the local buses is a 1394 local bus and another of the local buses is one of a universal serial bus (USB), Ethernet bus, and a Internet Protocol (IP) bus.
7. (Withdrawn) The home network of claim 5 wherein at least two of the modules are in communication with 1394 local buses.

8. (Withdrawn) The home network of claim 5 wherein at least two of the modules are in communication with USB local buses.
9. (Withdrawn) The home network of claim 5 wherein at least two of the modules are in communication with Ethernet local buses.
10. (Withdrawn) The home network of claim 1 wherein the demarcation point unit is connected to an external network, the demarcation point unit receiving an external signal from the external network and passing the CaTV and the home network signals together over the network backbone.
11. (Withdrawn) The home network of claim 10, wherein the external signal is a cable TV (CaTV) signal.
12. (Withdrawn) The home network of claim 10, wherein the external signal is a satellite signal.
13. (Withdrawn) The home network of claim 10 further comprising an electronic device connected to the demarcation point unit to receive the external signal.
14. (Withdrawn) The home network of claim 10, wherein at least one of the modules is integrated into a cable TV device.
15. (Withdrawn) The home network of claim 14, wherein the cable TV device is a cable modem and the external signal is a cable modem signal.
16. (Withdrawn) The home network of claim 15, wherein the cable TV device is a set top box.

17. (Withdrawn) The home network of claim 10 wherein at least one of the modules is integrated into a computer.

18. (Withdrawn) The home network of claim 11, wherein a frequency of the home network signal is above a frequency of the external signal.

19. (Withdrawn) The home network of claim 18, wherein the frequency is of the home network signal is higher than approximately 2100 MHz.

20. (Withdrawn) The home network of claim 18, wherein the frequency is of the home network signal is less than approximately 1050 MHz.

21. (Withdrawn) The home network of claim 20, wherein the network backbone includes a splitter having an operational range of less than 900 MHz.

22. (Withdrawn) The home network of claim 1, wherein the demarcation point unit includes a signal reflector unit that receives the home network signal having a first frequency and passes to the plurality of modules the home network signal having a second frequency.

23. (Withdrawn) The home network of claim 22, wherein the first frequency is the same as the second frequency.

24. (Withdrawn) The home network of claim 22 wherein the second frequency is different than the first frequency.

25. (Withdrawn) The home network of claim 1, wherein the network backbone conveys communications between the modules at approximately 100 Mbps.

26. (Withdrawn) A home network comprising: a demarcation point unit receiving a

signal from a network that is external to the home; a plurality of modules each connected to the demarcation point unit by one or more coax cables and to a device by a local bus, one of the modules receiving a message from the device connected to that one module by the corresponding local bus and transmitting the message to the demarcation point unit; wherein the demarcation point unit receives the message from that one module and transmits the message and the signal together to each of the plurality of modules over the coax cables.

27. (Withdrawn) A demarcation point unit connected between a home network backbone and an external network, the demarcation point unit comprising: a diplexer receiving a home network signal from the home network backbone and an external signal from the external network, the diplexer separating the home network signal from the external signal; and a signal reflector unit receiving the home network signal from the diplexer and returning the home network signal back to the home network backbone.

28. (Withdrawn) The demarcation point unit of claim 27 wherein the signal reflector unit is an output of the diplexer that reflects the home network signal back to the home network backbone.

29. (Withdrawn) The demarcation point unit of claim 28 wherein the output of the diplexer is shorted to ground.

30. (Withdrawn) The demarcation point unit of claim 28 wherein the output of the diplexer is unterminated.

31. (Withdrawn) The demarcation point unit of claim 27 wherein the signal reflector unit includes a given coax cable connected to an output of the diplexer, the given coax cable reflecting the home network signal back to the home network backbone.

32. (Withdrawn) The demarcation point unit of claim 28 wherein one end of the given coax cable is shorted to ground.

33. (Withdrawn) The demarcation point unit of claim 25 wherein one end of the given coax cable is unterminated.

34. (Withdrawn) The demarcation point unit of claim 27 wherein the signal reflector unit includes a delay line in communication with the diplexer.

35. (Withdrawn) The demarcation point unit of claim 34 wherein one end of the delay line of the signal reflector unit is shorted to ground.

36. (Withdrawn) The demarcation point unit of claim 34 wherein one end of the delay line of the signal reflector unit is unterminated.

37. (Withdrawn) The demarcation point unit of claim 27 wherein the signal converter unit includes a RF converter that changes a frequency of the home network signal before the home network signal returns to the home network backbone.

38. (Withdrawn) The demarcation point unit of claim 37 wherein the home network signal passing to the diplexer from the home network backbone is an upstream signal, the home network signal returning to the home network backbone from the signal reflector unit is a downstream signal, and the diplexer is a first diplexer, and wherein the signal reflector unit includes a second diplexer having an input/output (I/O) in communication with the first diplexer and an input in communication with the RF converter, the second diplexer separating the upstream signal received by the I/O from the downstream signal received by the input.

39. (Withdrawn) The demarcation point unit of claim 38 wherein the second diplexer returns the downstream signal to the first diplexer over the I/O.

40. (Withdrawn) The demarcation point unit of claim 38 further comprising an output in communication with the RF converter, and wherein the second diplexer passes the upstream signal to the RF converter over the output.

41. (Withdrawn) The demarcation point unit of claim 37 wherein the RF converter includes a RF down-converter in communication with a RF up-converter, the RF down-converter changing the frequency of the upstream signal to an intermediate frequency and the RF up-converter changing the intermediate frequency to the frequency of the downstream signal.

42. (Withdrawn) The demarcation point unit of claim 38 wherein the frequency of the upstream signal is higher than the frequency of the home network signal.

43. (Withdrawn) The demarcation point unit of claim 38 wherein a power level of the upstream signal received at the signal reflector unit is constant.

44. (Withdrawn) The demarcation point unit of claim 38 wherein a power level of the downstream signal leaving the signal reflector unit is constant.

45. (Withdrawn) The demarcation point unit of claim 38 wherein home network signal passing to the diplexer from the home network backbone is an upstream signal, and the home network signal returning to the diplexer from the signal reflector unit is a downstream signal, and further comprising a splitter connected between the diplexer and the home network backbone, the splitter receiving the downstream signal from the diplexer and passing the returned downstream signal to the home network backbone over a plurality of coax cables.

46. (Withdrawn) The demarcation point unit of claim 45 wherein the splitter receives the upstream signal from the home network backbone for transmission to the diplexer.

47. (Withdrawn) The demarcation point unit of claim 27, wherein the diplexer combines the home network signal received from the signal reflector unit with the external signal received from the external network and transmits the combined signal to the home network backbone.

48. (Withdrawn) A network module connected between a network backbone and a local bus, comprising: a diplexer receiving from the network backbone an analog signal and separating a home network signal from the analog signal; a modem converting the home network signal to a digital signal; a media access controller (MAC) controlling communications of the network module with other modules connected to the network backbone; and a switching fabric interfacing with a protocol of the local bus to deliver the digital signal to the local bus.

49. (Withdrawn) The home network module of claim 48, further comprising a transmission power controller controlling a power level of the home network signal.

50-65. (Canceled)

66. (Withdrawn) In a home network having a plurality of 1394 buses each connected to a network backbone by a network module, the network backbone including a plurality of coax cables, each network module providing a bridge between the network backbone and the 1394 bus connected to that network module, the bridge comprising: a 1394 Phy layer; and a 1394.1 link layer routing communications among the plurality of 1394 buses over the coax cables of the network backbone.

67. (Withdrawn) The bridge of claim 66 wherein the 1394 Phy layer is modified to enable an emulation of the plurality of 1394 buses in the home network as a single 1394 bus.

68. (Withdrawn) In a home network having a plurality of network modules connected to a network backbone, the network modules communicating with each other over the network backbone using bursts having a plurality of burst types, a burst comprising: a preamble signifying a start of the burst and the type of the burst; a header providing at least one parameter for decoding the burst; and a data portion carrying QAM (quadrature amplitude modulation) symbol data.

69. (Withdrawn) The burst of claim 68 wherein the preamble includes a periodic preamble portion having a length, the length of the periodic preamble determining the type of the burst.

70. (Withdrawn) The burst of claim 68 wherein the preamble includes a periodic preamble portion having symbols that periodically alternate in sign, wherein the alternating symbols determine the type of the burst.

71. (New) In a home network having a plurality of network modules, one of said modules being a network master module, each of said network modules being connected to a coax backbone, a method for communicating over the coax backbone between network modules, the method comprising:

using the master module to receive requests sent over the coax backbone from network modules for bandwidth to transmit bursts,

establishing an order of transmission opportunities for the network modules to follow when transmitting bursts; and

using the master module to transmit an allocation burst over the coax backbone that allocates a transmission opportunity to each of the modules to transmit bursts, said allocation burst being based on said transmission order.

72. (New) The method of claim 71 using the master module to transmit an allocation burst that allocates a transmission opportunity that depends at least in part on the amount of data ready for transmission in a selected transmission cycle.

73. (New) The method of claim 71 further comprising designating one of the modules to be the master module.

74. (New) The method of claim 71 further comprising synchronizing the network modules to a predetermined burst transmitted by the master.

75. (New) The method of claim 71 further comprising allocating bandwidth to each network module requesting a guaranteed quality of service.

76. (New) The method of claim 71 further comprising receiving over the backbone, at a selected network module, a grant signal that indicates that the given network module can transmit a burst.

77. (New) The method of claim 71 further comprising transmitting, by a selected network module, an empty burst if the given network module has no data to transmit.

78. (New) The method of claim 71 further comprising changing the amount of allocated bandwidth.

79. (New) The method of claim 71 further comprising using the master module to change the order of transmission opportunities.

80. (New) The method of claim 71 further comprising using the master module to change the order of transmission opportunities and to change the amount of allocated bandwidth.

81. (New) The method of claim 71 further comprising using the master module to allocate an opportunity to a module involved in a registration process, said opportunity for transmitting a self-training burst.

82. (New) A home network comprising:

a coax backbone;

a plurality of network modules, each of said network modules being connected to the

coax backbone; and

a network master module connected to the coax backbone, the master module that receives requests from the network modules over the coax backbone, the requests being for bandwidth to transmit bursts, the master module that establishes a transmission order of transmission opportunities for the network modules to follow when transmitting bursts and that transmits an allocation burst over the coax backbone that allocates a transmission opportunity to each of the modules to transmit bursts, said allocation burst being based on said transmission order.

83. (New) The network of claim 82 wherein the parameters of a transmission opportunity for a selected network module depends at least in part on an amount of data ready for transmission at the selected network module in a selected transmission cycle.

84. (New) The network of claim 82 wherein, in response to a predetermined burst transmitted by the master, the plurality of network modules are synchronized.

85. (New) The network of claim 82 further comprising bandwidth allocated to each network module requesting a guaranteed quality of service.

86. (New) The system of claim 82 further comprising a grant signal that indicates that a given network module can transmit a burst.

87. (New) The system of claim 82 further comprising an empty burst associated with a selected network module that has communicated that the selected network module includes no data to transmit.

88. (New) The system of claim 82 wherein the master module is adapted to change the order of transmission opportunities.

89. (New) The system of claim 82 further comprising a self-training burst that is adapted to be received by a network module involved in a registration process.

90. (New) A method of controlling power consumption in a home network, the home network including a plurality of network modules and a home-network reflector unit (HRU), each of said network modules and the HRU being connected to a coax backbone, the method comprising:

determining a predefined input power level at the HRU; and

adjusting the transmission power of each module to a selected power level wherein, when the transmitted signal of each module arrives at the HRU, the transmitted signal comprises the predefined power level.

91. (New) The method of claim 90 further comprising maintaining an HRU output signal at a constant power level.

92. (New) The method of claim 90 wherein each of a plurality of the network modules comprises a different transmission power.

93. (New) A home network comprising:

a plurality of network modules, each of the modules comprising a transmission power;

a home-network reflector unit (HRU) comprising a predefined input power level; and

a coax backbone that couples each of the plurality of network modules to the HRU, wherein when a transmitted signal of each module arrives at the HRU, the transmitted signal comprises the predefined input power level, and wherein the transmission power of each of the modules corresponds at least in part with a distance between the module and the HRU.

94. (New) The network of claim 93, wherein the HRU further comprises a substantially constant power output signal.

95. (New) The network of claim 93 wherein each of a plurality of the network modules comprises a different transmission power.